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This cable highlights environment, science and technology developments from the Japanese press and other sources during September 2005-April 2006.

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----- Energy/Nuclear -----

11. GOJ Approves Nuclear Energy Policy for the Next Decade:

On October 14, the GOJ agreed to follow basic recommendations put forth by the Atomic Energy Commission that call for maintaining the policy of reprocessing spent nuclear fuel for the next ten years. The new policy includes a study on the viability of fast-breeder reactors starting in 2015 and calls for the full-scale rollout of the FBRs by 2050 if the results are promising. It also mentions for the first time the need to perform studies on high-level waste disposal in case the rollout of the fast-breeder reactors is rejected. The full text of the policy can be found at:

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http://aec.jst.go.jp/jicst/NC/tyoki/taikou/ke_ttei/eng_ver.pdf

12. Aomori Prefecture Accepts Nuclear Fuel Storage Facility: On October 19, Aomori Prefecture Governor Shingo Mimura announced that the prefecture will allow Japan's first intermediate storage facility for spent nuclear fuel to be built in the city of Mutsu. The Tokyo Electric Power Company (TEPCO) and the Japan Atomic Power Company will build a 5,000-ton storage facility and plan to begin operating the facility in JFY2010. The lack of intermediate storage facilities has been a major stumbling block in Japan's recycling program to date. Japan Nuclear Fuel Ltd.'s spent nuclear fuel reprocessing plant in Rokkasho (RRP) will only be capable of treating 800 tons a year, while nuclear power plants nationwide produce 900 to 1,000 tons of spent nuclear fuel annually.

13. Japan's Nuclear Fuel Recycling Plan Advanced: The Kyushu Electric Power Company will likely become the first utility in Japan to begin generating power using MOX, or mixed oxide fuel. On March 26, Saga Governor Yasushi Furukawa gave his approval to the electric utility to use MOX fuel at its Genkai No. 3 reactor in Saga Prefecture. Furukawa announced in February that the company's Genkai nuclear power plant was safe based on the prefecture's own study and the central government's safety screening. Kyushu Electric plans to order fuel from an overseas firm and start pluthermal power generation by JFY2010. In September last year, the central government gave the green light to the company's pluthermal plan, but endorsements from the prefectural and municipal governments were deemed critical at the time, leading to the several month delay. The Genkai town assembly accepted the plan at a special session held on February 17, and the Saga prefectural assembly followed suit on February 21. (For further details see ref tel A).

14. JNFL's Rokkasho Reprocessing Plant (RRP) Starts Test Operations: On March 31, Japan Nuclear Fuel Ltd. began hot tests at Japan's first commercial facility for reprocessing spent nuclear fuel. The tests are expected to continue for the next 17 months, with full-fledged operations commencing in August 2007. During the trials, about 430 tons of spent nuclear fuel will be processed and about two tons of plutonium will be produced. When the facility begins to operate at full capacity in fiscal 2011, it is expected to reprocess approximately 800 tons of spent fuel and generate about five tons of plutonium a year. An inspector from the International Atomic Energy Agency (IAEA) will be stationed at the RRP to monitor operations since plutonium can be used to make nuclear weapons.

Environment

15. Asbestos Law and Supplementary Budget JFY 2006 Established: on February 3, the House of Councilors passed the Asbestos Law to compensate victims whose medical bills were not covered in traditional workman's compensation schemes such as residents near asbestos-dispersing sites and family members of employees at asbestos factories. About 30,000 people suffering from mesothelioma and other asbestos-related illnesses will be eligible for compensation under the new law, according to estimates by the Ministry of Environment (MOE). The law was enacted on March 27 and will be reconsidered after five years. The House of Councilors also on February 3 passed a 4.52-trillion-yen supplementary budget for JFY 2005 which ended in March, including Yen 180 billion (USD 1.5 billion) for asbestos-related expenditures. Of this, Yen 38 billion (USD 328 million) was earmarked to compensate victims noted above, and Yen 141 billion (USD 1.2 billion) to remove asbestos from schools, hospitals and social welfare buildings. The local press criticized the new law because it does not spell out the GOJ's responsibility for having

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allowed the damage of asbestos to spread.

16. Kubota Pays USD 29 Million In Compensation For Asbestos-Affected Residents: Major machinery manufacturer Kubota Corporation announced on April 17 that it decided to pay a total of Yen 3.2 billion (USD 29 million) of "relief" money to 88 victims of asbestos-related diseases who lived for at least one year between 1954-1995 near one of its factories. It is unique for a company to offer such a compensation package without establishing a direct link between the diseases and the plants or facing a lawsuit in court. Until then, Kubota, citing the company's "moral responsibility," had paid Yen 2 million (USD 18,000) to each affected resident in the area as condolence money.

Health/Medical

17. Japan's Pandemic Influenza Preparedness Action Plan Released: On November 14, the Ministry of Health, Labor and Welfare (MHLW) released Japan's domestic action plan to prepare for novel strains of pandemic influenza including avian flu. The plan outlines six major phases for a flu pandemic ranging from no human cases to a worldwide pandemic. The plan closely correlates with the World Health Organization's Global Influenza Preparedness Plan, though it further subdivides each of the six phases to include "no outbreaks in Japan" and "outbreaks in Japan." Under the action plan the MHLW Minister will declare a state of emergency in the event of an outbreak to curb infections and prevent panic. It calls for banning major gatherings as well as allowing authorities to prevent people from attending work or school. A summary and the

full text of the action plan can be found at:
<http://www.mhlw.go.jp/english/topics/influenza/index.html>

¶8. Japan to Amend Infectious Diseases Law to Help Prevent Bioterrorism: A MHLW experts panel has proposed new regulations on the handling of 48 viruses and bacteria which could possibly be used for a terror attack. The amended infectious diseases law will strictly regulate the handling of these pathogens and will also impose penalties on those who fail to comply with the new regulations. MHLW will submit a bill to the current ordinary Diet session and plans to implement the revised Infectious Diseases Law in October. (See ref tel B).

¶9. GOJ Prepares to Establish New BSL-4 Facility: On December 27, the Council for Science and Technology Policy chaired by Prime Minister Junichiro Koizumi decided to put into place conditions for the operation of a bio-safety level 4 (BSL-4) facility within three years. Japan currently has two BSL-4 facilities located at the National Institute of Infectious Diseases (NIID) and RIKEN. The operation of the facilities has been suspended for almost twenty years due to local opposition. The GOJ plans to conduct a study that will analyze the possible negative impact of running the lab on local citizens' safety and compare this to the consequences stemming from the prolonged suspension of operations at the two BSL-4 facilities. Tokyo will set aside Yen 300 million (USD 2.6 million) for the studies. In addition, the CSTP decided that it may become necessary to establish a separate BSL-4 facility if the two existing facilities are found unable to meet necessary conditions the government will set in the future. Until a facility re-opens or a new one is established, the GOJ will strengthen cooperation with institutes in France and Australia to analyze the blood of suspected patients of dangerous diseases such as the Ebola virus.

¶10. Lymphocytes Controlling HIV Development Found Among Japanese: A research team from Kumamoto University's Center for AIDS Research and the International Medical Center of Japan (IMCJ) identified several HIV infected individuals who were expressing a "resistance" to AIDS.

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Professor Masafumi Takiguchi of Kumamoto University examined blood samples taken from 300 Japanese individuals infected with HIV and found three who had not developed full-blown AIDS for more than 20 years even though they had not received any medical treatment. These patients have B51-type leukocytes including cytotoxic T lymphocytes (CTL), which are capable of detecting and eliminating leukocytes infected with the virus. Fifteen percent of the Japanese population has the B51-type leukocytes.

¶11. RIKEN Develops Way to Triple Mouse ES Cell Production Rate: A research team at the Institute for Physical and Chemical Research (RIKEN) has developed a technology to triple the efficiency of producing mouse embryo stem (ES) cells using cloning technology. The team led by Teruhiko Wakayama of RIKEN's Center for Developmental Biology raised the rate of ES cell production by 30-40 percent, three times the level attained through conventional methods by submerging a cloned mouse embryo into a reagent called Trichostatin A. The technology is not immediately applicable to humans, but is expected to further promote the development of regenerative medicine. Japan is currently trying to develop guidelines for researching human ES cell production.

¶12. Japan's First West Nile Fever Case Confirmed: On October 3, MHLW announced that a Japanese man in his thirties had been infected with the West Nile fever, the first case of the disease in Japan. The person, a resident of Kawasaki, Kanagawa Prefecture, likely became infected by the disease when he traveled to the United States between

late August and early September. He said that a mosquito bit him. He came down with a fever upon returning to Japan, and has since then recovered.

¶13. **Thalidomide Imports Increase:** MHLW will begin operating a system to register the use of Thalidomide by medical doctors this upcoming May. The drug was banned in 1962 in Japan, but recently doctors have been importing the drug privately because some overseas researchers have found it to be effective in treating patients with multiple myeloma, a cancer that arises in plasma cells. In JFY2004, 530,000 capsules were imported. When doctors import the drug, they will be required to register with the government information on the patient taking Thalidomide, such as sex and age, the disease being targeted, and dose of the drug being administered.

Safety and Security

¶14. **Japan Will Use Simulation System to help Prepare for Possible Terror Attacks:** The GOJ will use a simulation system to predict damage in preparation for a large-scale terror attack in JFY2006. When the terror attack occurs, the system will estimate the number of deaths and the locations of dangerous or contaminated areas that change over time by using data on geography and climate. The system enables the central and local governments to respond to an attack quickly based on the predictions. The National Police Agency and the Self-Defense Forces will also use the system for evaluation and to conduct drills for local residents.

¶15. **Japan, UK and France Cooperate on S&T for Safe and Secure Society:** Japan agreed with the UK and France to cooperate on R&D focusing on technologies for a safe and secure society (SSS) on January 16th and 17th respectively, which includes technologies to detect explosives and biological agents which can be used for terrorism and for identifying illegal copies of brand name products by using IC tags. Specific subjects for the cooperation will be discussed under the bilateral S&T cooperative agreements with the UK and France. The two countries may form a workshop on S&T for a SSS similar to what the US and Japan currently have in place.

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Space

¶16. **Supersonic Plane Succeeds in Test Flight:** The Japan Aerospace Exploration Agency (JAXA) which is developing a next-generation supersonic airliner, successfully conducted a 15-minute flight experiment at the Woomera test site in southern Australia on October 10. The unmanned scale model, which measured 11.5 meters long and 4.7 meters wide and weighed two tons, was launched by a rocket. It separated from the rocket at an altitude of 19 km and glided at twice the speed of sound. It was the second test for the project. The first test flight in July 2002 failed and ended in a fiery crash.

¶17. **Japan's Probe Lands on Asteroid:** On November 26, the Japanese space probe Hayabusa landed on the asteroid Itokawa for the second time and tried to collect surface samples, but it may have failed. If it really took the samples, it would be the first time in the world that soil samples have been taken from an asteroid. After the landing, JAXA announced that Hayabusa's return to Earth would be postponed by three years to 2010 June due to a problem involving the probe's attitude control engine, but it is feared that the probe will not return. The space probe was launched on M-5 rocket in 2003 and reached the

Itokawa more than two years later.

¶18. H2A Rockets Successfully Launched: On January 24, Japan's H2A rocket carrying a land-observation satellite was launched successfully. The launch of the No.8 version of the H2A rocket carrying the Advance Land Observing Satellite, nicknamed "Daichi" was originally scheduled for January 19, but it was postponed due to a malfunction in one of the rocket's telemetry transmitters for sending data on flight and rocket conditions to the ground. It is the first mission for an H2A since the successful launch of the seventh rocket with a multifunctional transport satellite in February 2005. Prime Minister Koizumi commented that the successful launch following the seventh rocket launch showed steady progress of Japan's space development. Following the launch, another H2A rocket was also lifted off on February 18 and successfully put into orbit a MTSAT-2 satellite for weather observation and air traffic control.

Other developments

¶19. Japan's S&T Budget for JFY2006 Approved: On March 27, the Diet approved the budget for JFY2006 drafted by the GOJ on December 24 (See ref C for the preliminary budget request for JFY2006). The total budget for S&T-related projects is Yen 3,573.3 billion (USD 31 billion), 0.1 percent less than JFY2005's actual allocated budget. MEXT's S&T budget for JFY2006 will be Yen 2303.7 billion (USD 20 billion), 0.1 percent less than its budget in JFY2005. The table below shows the JFY2006 S&T-related budget which will be allocated to major S&T-related ministries and agencies, such as the Ministries of Education, Science and Technology (MEXT); Health, Labor and Welfare (MHLW); Agriculture, Forestry and Fisheries (MAFF); Economy, Trade and Industry (METI); Land, Infrastructure and Transportation (MLIT); Environment (MOE); Internal Affairs and Communication (MIC); the National Police Agency (NPA); and the Defense Agency (JDA):

Ministry/ Agency	Yen (billion)	USD (billion)	Change from JFY2005 (percent)
MEXT	2303.7	20.0	down 0.1
MHLW	130.8	1.14	up 1.3
MAFF	120.5	1.05	up 1.1
METI	558.1	4.85	down 5.5

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MLIT	78.2	0.68	down 5.7
MOE	28.7	0.25	down 0.1
MIC	74.9	0.65	down 9.5
NPA	2.1	0.02	down 1.1
JDA	183.6	1.60	up 27.0

¶20. Japan's Third S&T Basic Plan Approved: On March 28, The cabinet approved Japan's Third Five-Year Basic Plan for Science and Technology Policy, covering JFY2006 to JFY2010 which was drafted by Japan's Council for Science and Technology Policy (CSTP) chaired by Prime Minister Koizumi. The CSTP designated five projects as technologies critical to maintaining Japan's S&T competitiveness, including a next generation super computer, an advanced ocean earth observation system, a fast breeder reactor, a new space transport system and an x-ray free electron laser. The Ministry of Finance has allocated Yen 25 trillion (USD217 billion) for the GOJ's R&D investment budget for the five years covered by the plan. The cabinet approved the plan on March 28. The Third Basic Plan can be viewed at: http://www8.cao.go.jp/cstp/english/basic/3rd-BasicPlan_06-10.pdf
For further details see ref D.

¶21. Japan Accelerating Development of Domestic Commercial

Jets: Major Japanese manufacturers are accelerating their development of small and mid-size commercial jets with a view to growing demand in Asian markets. Mitsubishi Heavy Industries is developing a prototype jet having 70-90 seats. The company aims at improving the energy efficiency of the jet by 21 percent from the competitors. The company estimates that the market will demand 4700 jets of this size over the next 20 years. Kawasaki Heavy Industries is also going to develop a jet having 125 seats. Honda Company had a successful experimental flight of a six-seat jet and seeking a chance to place it on the market.

SCHIEFFER